

Date: Mon, 22 Aug 94 08:31:02 PDT
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>
Errors-To: Info-Hams-Errors@UCSD.Edu
Reply-To: Info-Hams@UCSD.Edu
Precedence: Bulk
Subject: Info-Hams Digest V94 #947
To: Info-Hams

Info-Hams Digest Mon, 22 Aug 94 Volume 94 : Issue 947

Today's Topics:

Communications Quarterly , was Qs on no code FCC license and Hardware
 CQ/Ham Radio Magazine history
 FT530 Programming Guide
 Going to Austria.
 IC-970H use for AMSATS
 learning CW
Questions: Digital Scanning, Cellphones, Transmissions
 Radio Interface to Internet?
 Rigs in Dish Washers
 SSTV
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Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Mon, 22 Aug 1994 12:31:06 GMT
From: ihnp4.ucsd.edu!sdd.hp.com!col.hp.com!srigenprp!news.dtc.hp.com!hplextra!hplb!
hpwin055.uksr!hpqmoea!dstock@network.ucsd.edu
Subject: Communications Quarterly , was Qs on no code FCC license and Hardware
To: info-hams@ucsd.edu

C. C. (Clay) Wynn, N4AOX (wyn@ornl.gov) wrote:

: Well, they are doing it here. The rf shops are full of those contesters rigs in
: for the sparkplug changeouts. One of the biggest problems was finding a cheap
: second source for those @#\$\$%& overpriced HP diodes ;-)

: 73,
: C. C. (Clay) Wynn, N4AOX

Right! I can appreciate why someone might not feel confident or well enough equipped to try to fault find in a current "contester rig", but this is a simple soldering job, no fault finding or set-up needed. Perhaps those shops filled with radios for diode swaps are evidence of the progressive de-skilling of amateur radio? Or could it just be a case of people now being more prepared to throw money at problems ?

It seems to me that folk used to be a lot more prepared to "Have a go". I'll be pleased if we've left poverty behind, but I do hope that we haven't left curiosity or skill behind.

There's a free market in RF semiconductors, and several sources of PINs around the world. Seeking alternative parts is a long established amateur tradition. There is some effort involved in finding a potential part and in trying it out, but this can often give the seeker knowledge and experience worth more than the savings on parts. Long period PIN diodes are not really mainstream components, so price and availability won't be wonderful, no matter who made them. There may be some parts available from surplus dealers that could still be better than the standard parts built into the radios.

That reply cheered me a little, maybe I'm pessimistic about the scale of reading of technical articles ?

Cheers,
David GM4ZNX

(Just personal thoughts and opinions)

Date: 22 Aug 94 08:43:06 -0500
From: ihnp4.ucsd.edu!agate!spool.mu.edu!news.nd.edu!leo.bsuvc.bsu.edu!
00tlzivney@network.ucsd.edu
Subject: CQ/Ham Radio Magazine history
To: info-hams@ucsd.edu

Gary is not quite accurate about CQ buying Ham Radio magazine to temporarily boost their circulation by adding the HR subscribers - I had a lifetime subscription to Ham Radio and received NO additional issues of CQ - the publisher told me I should have purchased the lifetime subscription to CQ (this at the Atlanta hamfest a few years

back).

Date: Mon, 22 Aug 1994 13:07:16 GMT
From: ihnp4.ucsd.edu!swrinde!howland.reston.ans.net!spool.mu.edu!torn!
news.ccs.queensu.ca!venus!jupiter!pas@network.ucsd.edu
Subject: FT530 Programming Guide
To: info-hams@ucsd.edu

Folks: I've made a few updates to this document and am
posting it again. I hope some find it useful (I do!).

Peter

0 Peter A. Stokes _____ Voice & Voice mail: (613) 545-2923
<^- Engineering Applications Support _____ FAX: (613) 548-8104
\\ Canadian Microelectronics Corporation _____ Net: stokes@cmc.ca
 \ Kingston, Ontario, CANADA _____ Radio: VE3ZXT @ VE3CDY
 "Don't believe any advice you read"

How VE3ZXT programs his Yaesu FT530 HT

(These instructions are intended to help remind me on how I
program my FT530 and are not a substitute for reading the
manual!)

HINTS:

0. To turn the radio on, push and hold (for 1/2 a second) the orange button on the left side.
Repeat this to turn it off.
1. If you get into a strange mode or display, hit PTT as this usually clears it. The radio may display "ERR" for a moment.
2. To switch from band to band (left to right and back), use the "BAND" button.
3. If you want the backlight to stay on while using the radio, enter FM -> LAMP. The LAMP button is just below the PTT button. Having the light on can make programming quite a bit easier.

4. The radio is capable of any combination of scanning, searching or being idle on both bands. For example, one can be scanning on the left side and carrying on a QSO on the right side. To make the radio scan, place the radio on any channel (push MR until the channel indicator does not have multiple small arrows) and then push and hold either arrow button. It is also possible to make the radio alternate scan (scan on the left, then right, then left, ...). The radio is also capable of receiving any mixture of VHF and UHF on either side. If the PLL is unable to lock, the frequency display will flash.
5. Push the Monitor (Burst) button (above PTT) to break squelch momentarily. Push and hold the same when the radio is off to see the seconds display on the clock.
6. Whenever you make a change to the programming of a channel (frequency, offset frequency, offset direction, CTCSS frequency, Tone squelch enable, Tone encode enable, mode AM or FM), it is necessary to save that channel again to save the changes. As in normal programming, push and hold FM for two seconds, then hit FM again. That will store the current settings in the current channel.

PROGRAMMING GUIDE:

0. Ensure the radio has suitable power and the lithium battery installed.
1. Reset the radio by holding the MR and VFO buttons as you power up the radio. This will clear all settings, time, channels, etc.
2. Enable the extended receive and transmit modifications by holding both arrow keys while powering up the radio again. Note: extended Rx and Tx also require a hardware modification not discussed here. This mod reportedly allows for reception of 110-180, 300-500, 800-950 MHz and transmission of 140-150, 430-450 MHz although I haven't tried these to confirm the extents.

3. Set the clock: FM -> REV to see the clock
 FM to go into set mode
 (then see page 51 of the manual)

Hint: set the radio in UTC to avoid time zone and time change hassles.

4. Enable ARS (Automatic Repeater Shift) on both bands.
This will automatically set the repeater offset to the correct frequency count and direction +/- when you program in a frequency. The radio understands the basic amateur bandplan and will not set an offset if you enter a simplex frequency (e.g 146.520).

FM -> 0 -> 6 -> FM -> 6

and again for the other band

FM -> 0 -> 6 -> FM -> 6

5. Set the alternate display (when only working one band) to display battery voltage (a nice feature IMHO!):

FM -> 0 -> FM -> BAND

and again

FM -> 0 -> FM -> BAND

Alternative display options include blank (---) and clock.

6. Set transmitter default power to high:

FM -> 3

7. Set scan resume mode on both bands to "P" for pause (as opposed to "5" which causes the radio to continue scanning after pausing five seconds on one signal):

FM -> 7 -> FM -> 7

and again for the other band

FM -> 7 -> FM -> 7

8. Set automatic power off if desired:

FM -> 0 -> 3 -> 3

This feature can be useful if you want to conserve battery power or a pain if you are using the radio as a scanner or for monitoring packet. Regardless of configuration, the radio will shut itself off when battery voltage reaches near 5.5 volts, eliminating the possibility of over-discharging the nicads. As the radio nears this shutdown condition, the display will alternate between normal functions and a battery voltage display.

When automatic power off is enabled and the radio is about to shut itself off, it will play a warning medley one minute before shutdown. The default medley is a cute musical passage I detest. Fortunately, one can change this warning song. Refer to page 53 of the manual on how to enable a custom tone sequence and page 46 on how to program it in (it is the tone sequence in autodial memory number 1).

9. Set ABS to the desired ratio. ABS is the Automatic Battery Saver and causes the radio to go into a low-power consumption sleep mode if it is not used for a few seconds. In this mode, the radio remains inactive (conserving power) except for periodic 30 millisecond samples of the frequency being monitored. ABS may cause you to miss the first split second of a transmission and can cause problems for the same reason when the radio is being used for packet. Otherwise, it is a good tool. If I had the money, my car would have ABS too (but that is a different kind :-). To set ABS, enter:

FM -> 4

and then one of the following keys

- 1 for 10ms sleep, 30ms sample duty cycle
- 2 for 20ms sleep, 30ms sample duty cycle
- 3 for 40ms sleep, 30ms sample duty cycle
- 4 for 80ms sleep, 30ms sample duty cycle

5 for 160ms sleep, 30ms sample duty cycle
6 for 320ms sleep, 30ms sample duty cycle
7 for 640ms sleep, 30ms sample duty cycle
8 for 1.28s sleep, 30ms sample duty cycle
9 for automatic ratio based on recent usage
0 for ABS off

10. If desired, enable Tx Save feature. This feature will adjust transmitted power based on the signal strength of the incoming reception. As a rule, amateurs should always be using the minimum power necessary to maintain their QSO. This is a lazy approach. To enable Tx Save:

FM -> 0 -> 4

and repeat for the other band

FM -> 0 -> 4

11. Program in your favorite frequencies in all the channels. There are 41 per band: 38 channels plus one CALL channel plus one U (upper channel) plus one L (lower channel). If you have enabled the extended receive and transmit, you will find that a wide range of UHF and VHF frequencies can be intermixed on each side. It is also possible to enter 0.8 GHz frequencies in the UHF side! If the frequency display is flashing, the PLL has unlocked and the radio is unable to tune that frequency.

The basic sequence to enter a frequency in a channel is:

VFO enter into either VFO on the
band desired

146940 to enter 146.940 MHz

FM (hold for two seconds)

(use arrow keys or dial to select
channel to store frequency in)

FM

The frequency is now stored. After a second or two, the radio mode returns to the VFO. Repeat this process as necessary to enter all frequencies.

Refer to the manual on the programming of the CALL, L and U channels. These are used for a quick recall of the CALL frequency, Lower limit and Upper limit when searching, respectively. Note that if a CTCSS tone is stored in a U or L channel, that tone will be used for decoding during search mode if searching is initiated from that channel.

To set a CTCSS decode frequency on a given channel:

set radio on that channel

FM -> 2

turn dial to desired PL tone

2

It is then necessary to enable tone decode on that frequency. To do this, repeat FM -> 1 until TSQ appears in the display (which indicates Tone Squelch is enabled).

Refer to the manual on setting a decode frequency or scanning for a decode frequency.

Don't forget to save any channel options into memory before moving on to some other programming function. In other words, if you enable tone decode on a given channel, you must save that channel again to the memory location in order to save the tone decode setting. Otherwise, the minute you move off that channel, the tone decode setting is forgotten.

To set a CALL channel frequency:

VFO enter into either VFO on the
band desired

set frequency, offset and CTCSS tone

FM (hold for two seconds)

CALL

The radio is capable of receiving in AM mode and has extended receive capability down into the aircraft band. Although not discussed in the manual, the radio can store the mode (AM or FM) in each channel. To store a frequency in AM mode:

VFO enter into either VFO on the
band desired

set frequency

FM -> 0 -> FM -> VFO (enables AM mode)

FM (hold for two seconds)

use arrows or dial to select channel

FM

Note: the VFO will remain in AM mode until you enter the sequence again (FM -> 0 -> FM -> VFO) or the radio is made to listen to an FM channel. Remember to return the VFO to FM mode after setting an AM station otherwise you may end up programming all remaining channels in AM mode (annoying!).

Important: If you enter any frequency other than an amateur radio frequency, make sure you manually set the offset to - or + so that if you are listening to the frequency and accidentally PTT, you will not transmit on that frequency (e.g. a police frequency!).

12. Set IBS (Intelligent Band Select) if desired. This makes the radio automatically switch to the side, when you PTT, that last had a transmission. To set:

FM -> 0 -> BAND

Note: both bands must be displayed to set IBS.

13. Set DTMF keypad transmit hang time to on:

FM -> 0 -> FM -> 1

This makes it possible to enter a DTMF number sequence
(e.g. a phone number during an autopatch operation)
without having to hold PTT beyond entering the first
digit.

Please send suggestions/corrections to me,

73, Peter

0 Peter A. Stokes _____ Voice & Voice mail: (613) 545-2923
<^- Engineering Applications Support _____ FAX: (613) 548-8104
\ Canadian Microelectronics Corporation _____ Net: stokes@cmc.ca
\ Kingston, Ontario, CANADA _____ Radio: VE3ZXT @ VE3CDY
"Don't believe any advice you read"

Date: 22 Aug 1994 09:28:08 -0500
From: ihnp4.ucsd.edu!swrinde!cs.utexas.edu!news.tamu.edu!not-for-
mail@network.ucsd.edu
Subject: Going to Austria.
To: info-hams@ucsd.edu

I'm going in September for ten days - what do I need to do in order
to take/use my 2m ht.

Garen, N5RUK
gke0837@tamsun.tamu.edu

Date: 22 Aug 94 15:24:00 GMT
From: news-mail-gateway@ucsd.edu
Subject: IC-970H use for AMSATS
To: info-hams@ucsd.edu

Is anyone using the IC-970 for 9600 baud AMSAT work, and if so, what
modifications are required?

I contacted ICOM customer service and got the following reply:

>Sir,

>

>The IC-970 was developed before 9600 baud packet was on the market.

>Therefore the radio was not designed with the capability of operation with
>9600 baud packet. The IC-970 will work on the AMSAT but not on PACSAT, due
>to the switching speed needed to operate 9600 baud packet.
>
>We do not have factory authorized modifications for the radio outside of the
>original design of the Radio.
>
>73's Ray, KB5KCL
>

It seems hard for me to believe that radio manufacturers are ignoring 9600
baud compatability as much as they are ... the reviews I have read on the new
IC-820 also say that it is also not 9600 baud SAT compatible.

I guess I need to start considering other units for my next purchase ...

any recommendations from other users ???

Thanks

Art Jeyes
Art.Jeyes@jhuapl.edu

Date: 22 Aug 94 14:49:43 GMT
From: news-mail-gateway@ucsd.edu
Subject: learning CW
To: info-hams@ucsd.edu

Derek,

Interesting that you brought this up. I happened to be wondering
the same thing...so I took an informal poll at a VEC testing
session this past weekend. Of the folks I talked to, everyone
that used only computer generated CW said that they had trouble
for the first couple of QSOs after passing their 5 or 13 wpm
code tests. One guy claimed that he could copy 25 wpm solid with
computer generated code, but, on the air could only copy about
15wpm or so. So at least from the small population that I talked
to it seems that your observation is correct.

cheers - Warren

--

Warren E. Lewis
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PP-ASEL
KD4YRN DOD#0021

Date: Mon, 22 Aug 1994 13:50:38 GMT
From: ihnp4.ucsd.edu!sdd.hp.com!spool.mu.edu!torn!news.ccs.queensu.ca!venus!
pas@network.ucsd.edu
Subject: Questions: Digital Scanning, Cellphones, Transmissions
To: info-hams@ucsd.edu

In article <1994Aug20.140335.9766@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary
Coffman) writes:
|> In article <333n3t\$jqf@nic-nac.CSU.net> g9153402@huey.csun.edu (Berton Corson)
writes:
|> >But if, and when, digital services become the standard, will that make
|> >our scanners next to worthless, with nothing left to scan?
|>
|> It's illegal to scan cellular *now*, you're supposed to use your scanner
|> to scan transmissions that are legal to intercept such as unscrambled
|> public safety and amateur.
|> Gary

Gary: you dodged the question! Park the political
correctness and stay technical! Your insight is good; I
have several printouts at home that are your posts
(lightning protection and SWR arguments). There is
nothing wrong with talking about scanning cellular phone
calls. And plus, it is entirely legal.

In Canada.

To answer the reader's question: scanners are able to
receive an incredibly large number of transmissions:
marine, aircraft, public safety, search and rescue, fire,
taxi, security, Mick Jagger's wireless microphone, amateur
radio, satellites, ambulance, public weather stations,
military operations, air shows, cordless phones, drug
busters and the list goes on. As services go digital over
the next couple of decades, today's scanners will slowly
become less versatile. Don't hold your breath though...
these things take a lot of time.

Peter

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\/\ Canadian Microelectronics Corporation _____ Net: stokes@cmc.ca
 \ Kingston, Ontario, CANADA _____ Radio: VE3ZXT @ VE3CDY
 "Don't believe any advice you read"

Date: Mon, 22 Aug 1994 12:52:30 GMT
From: ihnp4.ucsd.edu!agate!howland.reston.ans.net!gatech!wa4mei!ke4zv!
gary@network.ucsd.edu
Subject: Radio Interface to Internet?
To: info-hams@ucsd.edu

In article <sethrCux0F9.1B2@netcom.com> sethr@netcom.com (Seth Russell) writes:
>Ok this might be a really dumb question - but I am going to ask it anyway.

>

>If one needed to download truly large files from the Internet (say in the
>range of 100 files of 50 megs each every day) - then the first thing that
>jumps to mind is - direct connect and bring in a T1 trunk from the *phone
>company* and lease it for about \$900 per month - right?

>

>Is this actually the most economical way to do it? Couldn't an enterprising
>network provider who is already hooked up to the net just interface with a
>radio transmitter that could put data on the air waves and allow anyone with a
>receiver/modem to pick it up for the cost of the equipment and the cost
>to the network provider? Hey I told you it was a dumb question before
>you started reading!

It's technically feasible. The questions that have to be answered
though are who pays, how much, and on whose spectrum? Businesses
aren't going to provide this service for just the cost of the
equipment, they want to make a profit on this value added service.

Liveline produces a weather product for TV broadcasters. They
distribute the product this way. You call them on landline with
a list of desired weather product (maps), and they queue that
up on their broadcast server and send it digitally encoded via
geosync satellite transponder. The product you order is coded
to activate your decoding box, and is downloaded into your
forecast computers. They charge for the map data, and that
has the cost of transmission rolled into it. Somebody has to
pay the geosync satellite operator for transponder time, somebody
has to amortize, maintain, and operate the uplink station, and all
those somebodies want to make a living at it.

Broadcasters are looking into the broadcast server business.
With the coming digital HDTV broadcasts, there is going to
be excess capacity in the data stream. There are several
proposals for selling this excess capacity for broadcast data
services. And of course there are already stock quote services
(and paging) broadcast (encrypted) on subcarriers of FM broadcast
stations. The user pays a fee that covers the data, and the
transmission.

No one is going to do it for just cost of equipment any more than the telcos are going to give you a T1 just for cost of equipment. The telco's copper is already a sunk cost. It costs them no more to give you dialtone than it does to carry a live call, but they still charge you per minute. That's because they want to turn a buck off you. It's the same for broadcast servers, they want to turn a buck off you. They don't have the copper cost of the telcos, but they have other costs, such as the typical \$12,000 a month electric bill for their transmitter.

Then there's the question of available spectrum. There's only a limited amount of spectrum space, and there are lots of different demands for it's use. For a broadcast service to be economical, it has to reach enough customers with product they want in order to spread the costs enough to be competitive with switched point to point telco service.

For regular broadcasters, the magic number is 2.5 cents per viewer per minute, or about \$1080 per viewer per month. That's higher than a leased T1 monthly charge (but of course it includes product cost as well as transmission cost). With the much lower number of people consuming a data product being broadcast, the price point is likely considerably higher for a dedicated broadcast data server. If that cost can be made *incremental* to the existing broadcast, it is likely to be small enough to be competitive with switched services.

Gary

--

Gary Coffman KE4ZV		You make it,		gatech!wa4mei!ke4zv!gary
Destructive Testing Systems		we break it.		uunet!rsiatl!ke4zv!gary
534 Shannon Way		Guaranteed!		emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244				gary@ke4zv.atl.ga.us

Date: 22 Aug 1994 13:20:57 GMT
From: ihnp4.ucsd.edu!library.ucla.edu!europa.eng.gtefsd.com!
usenet@network.ucsd.edu
Subject: Rigs in Dish Washers
To: info-hams@ucsd.edu

Many many years ago before anyone could afford a dishwasher (or maybe before they were invented) we used to take the old nasty cab radios we were trying to modify to the car wash and CAREFULLY spray them out with the high pressure hot water hose. We would only use the soap spray on the pieces of the cases that did not contain components.

Dan Vestal
vestal.dan@gtefsd.com

Date: Mon, 22 Aug 1994 07:45:24
From: ihnp4.ucsd.edu!dog.ee.lbl.gov!overload.lbl.gov!agate!howland.reston.ans.net!
swrinde!emory!metro.atlanta.com!mhv.net!news.sprintlink.net!indirect.com!
s146.phxslip.indirect.com!lenwink@.
Subject: SSTV
To: info-hams@ucsd.edu

The subject of slow scan tv will be the topic of discussion on this week's
Ham Radio & More show. It features John Langner, WB2OSZ, of
Absolute Value Systems as the show's guest. So be sure to tune into this
week's show, 8/28/94.

Ham Radio & More is heard on the Talk America Network in over 20 cities
and via satellite on spacenet 3, transponder 9, 6.8 audio. The listener
call in line is 1-800-298-talk, and for more info call 602-241-1510.
73, Len, KB7LPW

Date: 22 Aug 94 14:50:10 GMT
From: news-mail-gateway@ucsd.edu
Subject: subscribe
To: info-hams@ucsd.edu

Dear OM,

could I get more info on the services you provide for hams? What topics are
covered, is there a conference going on, interesting files etc...

Thanks,

Peter - ON6TT.

p_casier@ub4b.eunet.be

Date: Mon, 22 Aug 1994 07:39:35
From: ihnp4.ucsd.edu!agate!howland.reston.ans.net!swrinde!emory!metro.atlanta.com!
mhv.net!news.sprintlink.net!indirect.com!s146.phxslip.indirect.com!
lenwink@network.ucsd.edu
To: info-hams@ucsd.edu

References <CuunEJ.KHo@osuunx.ucc.okstate.edu>,
<1994Aug21.120025.1@aspden.uml.edu>, <339v43\$rbf@shore.shore.net>46.phx
Subject : Re: Why Some people hate Wayne Green

>I have been a 73 reader since the mid Sixties and have found Wayne Green
>W2NSD/2 interesting, entertaining and controversial. He's Ham Radio's
>original "Bad Boy". Every organized effort humans involve themselves in
>should have a "devil's advocate" or whatever you wish to call it.

>

>Two political parties are better than one. The ARRL is necessary as a
>lobby group to keep the Bureaucrats in DC from taking our bands away from
>us (especially the VHF-UHF bands which are jealously coveted by the two-way
>radio industry. Don't forget the 220MHz band that UPS spent mucho bucks
>to get from us and doesn't even use!) In my opinion, Wayne is and has
>been the guy that keeps the League on its toes.

>I've heard Wayne Green speak on several occasions at hamfests and he
>always draws a huge crowd. Many people criticize him for all kinds of
>reasons. I don't always agree with his views, but he certainly makes the
>political side of our hobby colorful and interesting.

And Wayne Green will be the guest on the Ham Radio & More show on
October 30, 1994. Make plans to hear this POSITIVE show.
73, Len, KB7LPW

End of Info-Hams Digest V94 #947
